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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,401	04/17/2001	Arleigh B. Baker	017750-301	4454

7590 10/18/2004  
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EXAMINER

WANG, TED M

ART UNIT PAPER NUMBER

2634

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/835,401	<b>Applicant(s)</b> BAKER ET AL.	
	<b>Examiner</b> Ted M Wang	<b>Art Unit</b> 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "328" has been used to designate both each of the selected 128 point frequency domain signals and FFT block as described in page 7 lines 11-12. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 6,690,657) in view of Macina (US 4,316,282).

□ In regard claim 1,

As shown in figures 9-17, Lau et al. discloses an adaptive information compression system for a high-bit-rate data communication that means for evaluating segments of a radio frequency signal (Fig.14 element 130 and 132, Fig.15 elements 170, 168, and 166, Fig.16 elements 206, Fig. 17 elements 246, column 8 lines 3-27, column 8 line 63 – column 9 line 24, and column 9 line 61 – column 10 line 2) to determine which segments are active, each segment representing a specific channel at a specific frequency (Fig.14 elements 104, 106, 108, 112, 124 and 130, Fig.15 elements 144 and 146, Fig.16 element 206, Fig.17 element 246, column 7 lines 45-58, column 8 lines 28-49, and column 9 line 61 – column 10 line 2 ); means, responsive to said means for evaluating, for reformatting the active segments into a contiguous order in a signal (Figs. 9-15, column 6 line 53 – column 8 line 27).

Lau et al. discloses all of the subject matter as described above except for specifically teaching an output with a lower bandwidth than said radio frequency signal as claimed.

However, Macina teaches a multi-channel frequency translation of sampled waveform by decimation and interpolation having an output with a lower bandwidth than said radio frequency signal (Fig.1 and 3, column 2 line 38 –

column3 line 43) so that when configured with charge coupled device (CCD) arrays the resulting system is compact and economical in terms of both components and energy.

It is desirable to have an output with a lower bandwidth than said radio frequency signal. The reason for this is without this bandwidth transformation in a wide bandwidth and high data rate of the communication system the hardware structure is too costly. On other hand, implementing a multi-channel frequency translation of sampled waveform by decimation and interpolation having an output with a lower bandwidth than said radio frequency signal as taught by Macina the hardware structure cost is reduced. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the system means as taught by Macina, in which a multi-channel frequency translation of sampled waveform by decimation and interpolation having an output with a lower bandwidth than said radio frequency signal, into Lau et al. so that when configured with charge coupled device (CCD) arrays the resulting system is compact and economical in terms of both components and energy.

- In regard claim 3, the limitation means for recreating said radio frequency signal by modulating each of said active segments on their respective specific frequencies can further be taught by Lau et al. in Fig.14 elements 112, 114, 116, 118, and 124 and Fig. 15 elements 152, 162, and 166, column 7 lines 45-67, and column 8 lines 39-50.

- In regard claim 4, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 6, which is a method claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.

3. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 6,690,657) and Macina (US 4,316,282) as applied to claim 1 above, and further in view of Sogabe (US 5,638,406).

- In regard claim 2,

Lau et al. and Macina discloses all limitation described above and Lau et al. also teaches calculating a power value for each of said segments (Fig.14 element 132 and Fig.15 element 168)

Lau et al. and Macina discloses all of the subject matter as described above except for specifically teaching that means for comparing the power of each of said segments to a predetermined threshold value.

However, Sogabe teaches that means for comparing the power of each of said segments to a predetermined threshold value (Fig.1 element 1 and Fig.2 element 304, column 3 lines 51-58) so as to improve the operation of the carrier detection.

It is desirable for a carrier detector to comparing the power of each of said segments to a predetermined threshold value. Without it the operation of the

carrier detection will be poor due to the frequency offset in the received input signal comparing to a conventional carrier detector well known in the art (column 1 line 12 – column 2 line 30). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by Sogabo in which having an algorithm for comparing the power of each of said segments to a predetermined threshold value, into Lau et al. and Macina in order to improve the operation of the carrier detection.

- In regard claim 5, which is a method claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.

### ***Conclusion***

4. Reference US 5,590,156 and US 5710763 are cited because they are put pertinent to the multi-channel wideband receiver with frequency translation. However, none of references teach detailed connection as recited in claim.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (571) 272-3053. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang  
Examiner  
Art Unit 2634

Ted M. Wang

*Shuwang Liu*  
**SHUWANG LIU**  
**PRIMARY EXAMINER**